METHOD OF CHARACTERIZING POTENTIAL THERAPEUTICS BY DETERMINING CELL-CELL INTERACTIONS

ABSTRACT OF THE DISCLOSURE

A method quantitatively analyzes images of two different cell types that interact in producing and maintaining a disease state or other biological condition. The two separate cell types are exposed to an agent or stimulus suspected of influencing the biological condition (e.g., the agent might be a potential therapeutic for treating a cancer). The two different cell types are co-cultured or otherwise allowed to interact with one another before and during exposure to the agent. The images of the cells show how the agent affects the cells' phenotypes, including their viability, migration patterns, etc. The method generates a quantitative phenotype for each cell type by quantitatively analyzing the cell images via an automatic procedure. The quantitative phenotypes typically take the form of a group of scalar or vector descriptors that together provide a "fingerprint." The descriptors may be size values, positions, morphological values, intensity distributions, etc.